

US-PAT-NO: 6483805

DOCUMENT-IDENTIFIER: US 6483805 B1

TITLE: Internet differentiated services service for transaction applications

----- KWIC -----

Application Filing Date - AD (1):

19981228

Brief Summary Text - BSTX (16):

In normal operation, the flow rate of a TCP flow starts at a low value and **ramps up** through a 'slow start phase' and a 'congestion avoidance phase' to a maximum value as the first few packets are acknowledged. At some point in this initial **ramp up** either all data will have been sent or a packet will be lost. If a packet is lost (indicated by missing acknowledgements) the flow rate is reduced by 50% and **ramp up** restarts from the reduced value.

Detailed Description Text - DETX (27):

When a **TCP** data packet is lost, the sender can recover using either the Fast Retransmit scheme or to wait for the retransmission **time-out** to expire. The Fast Retransmit scheme is triggered on the arrival of at least three duplicate ACK frames which indicates the need for the missing packet to be retransmitted. This retransmission is followed by the Congestion Avoidance procedure which reduces the TCP window size by half. In contrast, if the sender relies on the retransmission time-out, the packet transmission rate is reduced drastically since the retransmission is followed by the Slow Start procedure with the window size reset to 1 packet. As can be seen, in both cases the value of the traffic offered by a sender to the system decreases but, in the second case, the decrease is more drastic.